



(19) Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) EP 2 135 545 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
17.02.2010 Bulletin 2010/07

(51) Int Cl.:
A61B 1/05 (2006.01) **A61B 5/07 (2006.01)**

(43) Date of publication A2:
23.12.2009 Bulletin 2009/52

(21) Application number: 09007838.7

(22) Date of filing: 15.06.2009

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL
PT RO SE SI SK TR**

Designated Extension States:
AL BA RS

(30) Priority: 19.06.2008 JP 2008160807
17.10.2008 JP 2008269048

(71) Applicant: **Olympus Medical Systems Corp.**
Tokyo 151-0072 (JP)

(72) Inventors:

- Segawa, Hidetake
Tokyo 151-0072 (JP)
- Chiba, Atsushi
Tokyo 151-0072 (JP)
- Kimura, Atsushi
Tokyo 151-0072 (JP)

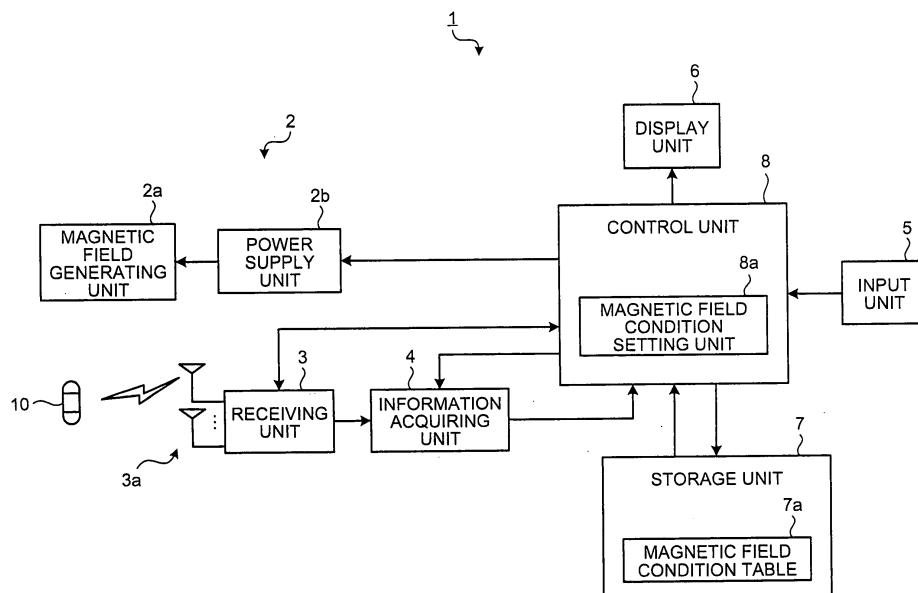
(74) Representative: **von Hellfeld, Axel**
Wuesthoff & Wuesthoff
Patent- und Rechtsanwälte
Schweigerstrasse 2
81541 München (DE)

(54) Magnetically guiding system and magnetically guiding method

(57) A magnetically guiding system (1) includes: a capsule medical device (10) that has a magnet provided therein; an information acquiring unit (4) that acquires physical information about magnetic guiding of the capsule medical device (10); a magnetic field generating unit (2a) that generates a magnetic field for magnetically guid-

ing the capsule medical device (10); and a control unit (8) that sets a magnetic field condition based on the physical information acquired by the information acquiring unit (4) and controls the magnetic field generating unit (2a) to generate a magnetic field corresponding to the magnetic field condition.

FIG.1





EUROPEAN SEARCH REPORT

Application Number
EP 09 00 7838

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	WO 2008/029460 A (OLYMPUS CORP [JP]; KAWANO HIRONAO [JP]; UCHIYAMA AKIO [JP]; TAKIZAWA H) 13 March 2008 (2008-03-13) * abstract * & EP 2 060 221 A (OLYMPUS CORP [JP]) 20 May 2009 (2009-05-20) * paragraphs [0085], [0087], [0093], [0095], [0097], [0158], [0166], [0167], [0178], [0179] * * figures 1-5 * -----	1-3,8,9, 17,18	INV. A61B1/05 A61B5/07
X	WO 2008/059773 A (OLYMPUS MEDICAL SYSTEMS CORP [JP]; KAWANO HIRONAO [JP]; KIMURA ATSUSHI) 22 May 2008 (2008-05-22) * abstract * & EP 2 090 215 A (OLYMPUS MEDICAL SYSTEMS CORP [JP]) 19 August 2009 (2009-08-19) * paragraphs [0030], [0031], [0039], [0043], [0061] - [0068] * * figures 1,3,5 * -----	1-3,9,17	
X	US 2007/299301 A1 (UCHIYAMA AKIO [JP] ET AL) 27 December 2007 (2007-12-27) * paragraphs [0086] - [0088], [0112], [0240] - [0242] * * figures 1-3 * -----	1,2,17, 18	TECHNICAL FIELDS SEARCHED (IPC) A61B
X	US 2007/265496 A1 (KAWANO HIRONAO [JP] ET AL) 15 November 2007 (2007-11-15) * the whole document * -----	1,2,17	
A	US 2008/035521 A1 (TAKIZAWA HIRONOBU [JP] ET AL) 14 February 2008 (2008-02-14) * paragraphs [0112], [0130], [0136] * -----	9	
A	US 2005/085696 A1 (UCHIYAMA AKIO [JP] ET AL) 21 April 2005 (2005-04-21) * the whole document * -----	3,9	
		9	
		-/-	
The present search report has been drawn up for all claims			
4	Place of search Munich	Date of completion of the search 6 October 2009	Examiner Olapinski, Michael
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



EUROPEAN SEARCH REPORT

Application Number
EP 09 00 7838

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	<p>WO 2007/077896 A (OLYMPUS MEDICAL SYSTEMS CORP [JP]; OLYMPUS CORP [JP]; UCHIYAMA AKIO [J] 12 July 2007 (2007-07-12)</p> <p>* abstract *</p> <p>& EP 1 972 253 A (OLYMPUS MEDICAL SYSTEMS CORP [JP]; OLYMPUS CORP [JP])</p> <p>24 September 2008 (2008-09-24)</p> <p>* figures 1,11,12 *</p> <p>* paragraphs [0026], [0073] - [0087], [0090] - [0093] *</p> <p>-----</p>	9	
P,A	<p>WO 2009/001666 A (OLYMPUS MEDICAL SYSTEMS CORP [JP]; KATAYAMA MIHO [JP]; KAWANO HIRONAO) 31 December 2008 (2008-12-31)</p> <p>* the whole document *</p> <p>-----</p>	9	
TECHNICAL FIELDS SEARCHED (IPC)			
<p>4 The present search report has been drawn up for all claims</p>			
<p>Place of search</p> <p>Munich</p>		<p>Date of completion of the search</p> <p>6 October 2009</p>	Examiner
		<p>0lapinski, Michael</p>	
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone</p> <p>Y : particularly relevant if combined with another document of the same category</p> <p>A : technological background</p> <p>O : non-written disclosure</p> <p>P : intermediate document</p>		<p>T : theory or principle underlying the invention</p> <p>E : earlier patent document, but published on, or after the filing date</p> <p>D : document cited in the application</p> <p>L : document cited for other reasons</p> <p>.....</p> <p>& : member of the same patent family, corresponding document</p>	



Application Number

EP 09 00 7838

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

see annex

The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**Application Number
EP 09 00 7838

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-6, 8-10, 17 and 18

directed to acquiring physical information about the swimming properties of a magnetically guided capsule medical device in a liquid based on images obtained from the device.

2. claims: 1, 2, 7, 8-9 (insofar as dependent on claim 7), 17 and 19

directed to storing and transmitting of predetermined device parameters in a magnetically guided medical device.

3. claims: 1, 11, 14-16 (insofar as dependent on claim 11), 17 and 20

directed to measuring the magnetic moment of the magnet of a magnetically guided medical device.

4. claims: 1, 2, 12, 13 and 14-16 (insofar as dependent on claims 12 or 13)

directed to determining the angle between the reference direction of an image capturing unit and the magnetisation direction of the magnet of a magnetically guided medical device.

5. claims: 1, 14 and 15-16 (insofar as dependent on claim 14)

directed to measuring the characteristics of a resonant circuit included in a magnetically guided medical device.

6. claims: 1,15 and 16

directed to packaging a medical device.

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 09 00 7838

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-10-2009

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 2008029460	A	13-03-2008	AU	2006347875 A1		13-03-2008
			CN	101505648 A		12-08-2009
			EP	2060221 A1		20-05-2009
			US	2008319262 A1		25-12-2008
<hr/>						
EP 2060221	A	20-05-2009	AU	2006347875 A1		13-03-2008
			CN	101505648 A		12-08-2009
			WO	2008029460 A1		13-03-2008
			US	2008319262 A1		25-12-2008
<hr/>						
WO 2008059773	A	22-05-2008	CN	101534700 A		16-09-2009
			EP	2090215 A1		19-08-2009
			JP	2008119253 A		29-05-2008
<hr/>						
EP 2090215	A	19-08-2009	CN	101534700 A		16-09-2009
			JP	2008119253 A		29-05-2008
			WO	2008059773 A1		22-05-2008
<hr/>						
US 2007299301	A1	27-12-2007		NONE		
<hr/>						
US 2007265496	A1	15-11-2007	CN	101351145 A		21-01-2009
			CN	101351147 A		21-01-2009
			EP	1967126 A1		10-09-2008
			EP	1972252 A1		24-09-2008
			WO	2007077894 A1		12-07-2007
			WO	2007077895 A1		12-07-2007
			KR	20080072951 A		07-08-2008
			US	2008297291 A1		04-12-2008
<hr/>						
US 2008035521	A1	14-02-2008	CN	101351144 A		21-01-2009
			CN	101351148 A		21-01-2009
			EP	1972251 A1		24-09-2008
			WO	2007074882 A1		05-07-2007
			KR	20080081988 A		10-09-2008
<hr/>						
US 2005085696	A1	21-04-2005	EP	1652466 A1		03-05-2006
			WO	2005013811 A1		17-02-2005
			KR	20060036112 A		27-04-2006
			US	2007260105 A1		08-11-2007
<hr/>						
WO 2007077896	A	12-07-2007	CN	101351141 A		21-01-2009
			CN	101351143 A		21-01-2009
			EP	1972253 A1		24-09-2008
			EP	1972255 A1		24-09-2008
			WO	2007074888 A1		05-07-2007
			US	2008294006 A1		27-11-2008

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 09 00 7838

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-10-2009

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 2007077896	A		US	2008306340 A1		11-12-2008
EP 1972253	A	24-09-2008	CN	101351141 A		21-01-2009
			CN	101351143 A		21-01-2009
			EP	1972255 A1		24-09-2008
			WO	2007077896 A1		12-07-2007
			WO	2007074888 A1		05-07-2007
			US	2008294006 A1		27-11-2008
			US	2008306340 A1		11-12-2008
WO 2009001666	A	31-12-2008		NONE		